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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,956	10/03/2001	David Montgomery Varnon	USA.229	2660
7590	08/04/2004		EXAMINER	
RALPH D'ALESSANDRO 3D SYSTEM, INC. 26081 AVENUE HALL VALENCIA, CA 91355			STEWART JR, CHARLES W	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/970,956	VARNON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Charles W. Stewart, Jr.	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on March 26, 2004 (Amendment).
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 and 67-90 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 22-30 and 84-90 is/are allowed.
- 6) Claim(s) 1-6, 10-14, 21, 68-80, 82 and 83 is/are rejected.
- 7) Claim(s) 7-9, 15, 16, 67 and 81 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

***Detailed Action***

***Amendment to the claims***

1. The Applicant has amended Claim 23 in order to provide a clear means of protection to the claimed invention. The Applicant has cancelled Claims 31-66 as set forth.

***Claim Objections***

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Misnumbered claims 1-30, 67-84, and 86-90 has been renumbered to 1-30 and 67-90. Appropriate correction action is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international

application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

**4.** Claims 1-6, 10-14, 21,68-80 and 82-83 are rejected under 35 U.S.C.

102(e) as being anticipated by Barlage, III et al. (US 5,784,279).

Bralge, III et al. discloses a method for dispensing a build material in a flowable state from a dispensing device of a solid freeform fabrication apparatus to form a three-dimensional object, the method comprising the steps of:

Providing at least one queue station for holding a plurality of discrete amounts of build material in a non-flowable state (col. 5, lines 45-56);

Loading the plurality of discrete amounts of build material in a non-flowable (fig. 2, element 100) state to the queue station 100, the discrete amounts of build material residing in the queue station in a random order (col. 6, lines 44-51);

Delivering the discrete amounts of build material from the queue station to at least one hopper 78 on the dispensing device (col. 6, lines 62-67);

Changing the build material from the non-flowable state to the flowable state after delivery of the build material to the hopper (col. 7, lines 1-3);

Moving the build material (fig. 2, element 100) in the flowable state in the hopper to a receptacle of the dispensing device 39 (col. 6, lines 57-62, fig. 5, col. 8, lines 22-31).

Providing an environment for the build material to return to the non-flowable state after being dispensed in the layerwise fashion (col. 5, lines 35-43).

Delivering the discrete amounts of builds material occurs in response to a low condition detected in the amount of build material held in the receptacle (col. 7, lines 9-13).

Moving the build material in the flowable state in the hopper to the receptacle is accomplished by capillary action (col. 7, lines 27-31).

Dispensing the build material and the step of dispensing the support material is performed by at least one ink jet print head (fig. 5, element 34, col. 5, lines 29-31).

Dispensing the build material in the receptacle by the dispensing device in the flowable state in a layerwise fashion to form the three-dimensional object, separately performed for dispensing a support material, the support material forming supports for the three-dimensional object (abstract), and mechanical index (col. 5, line 50 in terms of "that the build material in metered quantities" communicating dispensing device in a mechanical index", in a manner, read would be considered index to measuring).

A capillary valve 76 and effective capillary force greater than the capillary force of the discharge orifice (col. 5, lines 35-43 and col. 6, lines 25-28, since the building material is normally solid when the temperature on the interior of the apparatus, communicating with the jetting head 34 in a capillary manner, then the greater the liquid for delivery of the discharge of the liquid droplet).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (US 6,170,942) in view of Barlage, III et al. (US 5,784,279)

Ogawa et al. discloses a plurality of hoppers, each hopper being associated with a different build material having a unique visual characteristic and being delivered the build material indicatives of the unique visual characteristic (fig. 4, element 20; in terms of hoppers, col. 7, lines 1-2)

Wherein the unique visual characteristic associated with the hoppers is color additive is provided in the different build materials delivered to the hoppers (col. 9, lines 1-3).

Wherein the color additives are indicative of the colors consisting of cyan, magenta, yellow, and black (col. 9, lines 41-45).

However, Ogawa et al. does not teach the three-dimensional object.

Nevertheless, Barlage, III et al. teach the three-dimensional object (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Ogawa et al. with the teaching of the three-dimensional object, as taught by Barlage, III et al., in order to provide better printed images at high speed.

It is the Examiner's position that Barlage, III et al. disclose a computer controller for receiving object data descriptive of the three-dimensional object, the computer controller adapted for processing the data in order to control the apparatus when forming the three-dimensional object (col. 5, lines 8-11).

***Allowable Subject Matter***

6. Claims 22-30 and 84-90 are allowed.
7. The following is a reason for allowable subject matter. The recitation of a computer controller for receiving object data description of the three-dimensional object, the computer controller adapted for processing the data in order to control the apparatus when forming the three-dimensional object.

Claims 7-9, 15-16, 67 and 81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowable subject matter, wherein the recitation of means for curing the waste material cures the waste by exposure to actinic radiation.

***Response to Arguments***

8. Applicant's arguments with respect to claim 1-30 and 67-90 have been considered but are moot in view of the new ground(s) of rejection.

***Contact Information***

Art Unit: 2853

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles W. Stewart, Jr. whose telephone number is (571) 272-2154. The examiner can normally be reached on Full time.

Charles Stewart, Jr.

July 23, 2004



Stephen D. Meier  
Primary Examiner